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Review article

Failure modes and effects analysis (FMEA) technique: a literature review

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ABSTRACT

Risk management and improve the reliability of the process, are the issues which have become more important in production and operations management literature. Risk assessment is an important tool in risk management to reduce project risks and achieve sustainable development. At present the risk assessment is concerned in planning and policy-making in most of the world countries. There are several techniques for identifying hazards and assessing risks. One of the most important of these techniques is Failure Modes and Effects Analysis (FMEA). FMEA is an efficient tool for the identification of potential failure modes and their effects in order to increase the reliability and safety of complex systems. Also this technique is useful to gather data needed for decision making and risk control. In fact, the purpose of this technique is: a. to identify failure modes and their effects; b. to specify the corrective actions to eliminate or reduce the probability of failure and ultimately c. development of efficient maintenance system to reduce the occurrence of potential scenarios. In this study, several other studies have investigated and tried to explore a range of its benefits and uses and also the method of risks computation using this technique is presented.